

PHAGES PSEUDOMONAS AERUGINOSA AS AN ALTERNATIVE APPROACH IN ANTIMICROBIAL THERAPY

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Introduction. Nosocomial infections are a major problem in modern health care due to their prevalence. The exacerbation of the problem is due to the global spread of antibiotic resistance among microorganisms. In the last decade, there has been a rapid increase in the resistance of *Pseudomonas aeruginosa* to almost all antibacterial drugs, including antifungal cephalosporins and carbapenems.

Aim. Review of scientific research aimed at the development and testing of phage preparations for the treatment of infections caused by *P. aeruginosa*.

Materials and methods. Analysis of the scientific literature on the research topic.

Results and discussion. An alternative strategy to control bacterial infections under conditions of antibiotic resistance may be the use of lytic bacteriophages. The specificity and narrow spectrum of activity of bacteriophages avoid antibiotic-related complications associated with exposure to the microbiome, but also require mandatory testing of susceptibility to susceptible phages before prescribing phage therapy.

Pseudomonas aeruginosa is one of the most dangerous opportunistic pathogens. According to scientific studies, the use of phage in surgical practice reduces by 2 - 2.5 times the healing time of wounds, oral phages have a high ability to penetrate into tissues, are effective in treating wounds, especially burns, improve the epidemic situation in hospitals.

The narrow spectrum of antibacterial activity of individual *Pseudomonas* bacteriophages can be compensated by using combinations of several phages with different spectra of activity. A review of scientific materials showed no side effects or toxic effects like local and systemic nature when using phage drugs *P. aeruginosa*.

Conclusions. Phage therapy is an effective and safe method of combating bacterial infections and is highly relevant and promising for further research and implementation in clinical practice. Bacteriophages and drugs created on their basis are able to significantly reduce or even completely destroy resistant strains of *P. aeruginosa*, which creates great prospects for the use of phage therapy against antibiotic-resistant infections caused by this pathogen. In clinical practice, it is advisable to use bacteriophages in combination therapy with antibiotics.

ONCOLYTIC ACTION OF VIRUSES

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Introduction. Currently, studies are being conducted on the feasibility of using viruses in combination therapy of malignant tumors. Traditionally, viruses have been considered only as pathogens. But new biological possibilities of viruses have been discovered. Oncolytic virotherapy is the latest technique, which consists in the use of replication-competent viral vectors to destroy cancerous tumors. The method of treatment of malignant tumors with oncolytic viruses that destroy